CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

APRIL 26, 2002

ITEM NO: 20

SUBJECT: Update on the Colton Tank Farm, 2359 S. Riverside Avenue, Rialto, San Bernardino County

BACKGROUND:

The Colton Terminal occupies approximately 130 acres in the Colton/Rialto/Bloomington Area. The site is located south of I-10, west of I-215 and the Santa Ana River, east of Riverside Avenue, and north of Santa Ana Avenue. The surrounding area is primarily industrial, commercial and agricultural. Land to the east and south is protected reserve for an endangered species (Delhi Sands Flower-Loving Fly). The current independent operators of separate facilities at the terminal include: Kinder Morgan Energy Partners (SFPP, CalNev), BP (Atlantic Richfield), Chevron, Exxon Mobil, Phillips, and Shell.

Site operations include the transport and storage of bulk refined fuels. Approximately 11.55 million gallons per day of fuel (gasoline, diesel fuel, jet fuel) are piped from Watson Station (North Long Beach) to the terminal. The 47 above ground tanks (not including the CalNev tanks and the Kinder Morgan breakout tanks) store approximately 63 million gallons of fuel on site. Fuel is transported from the site via pipelines or trucks.

Responsible parties at the site include:

1. Southern Pacific Pipe Lines, Inc. (Kinder Morgan)
2. Chevron
3. Golden West
4. Mobil (ExxonMobil)
5. Shell (Colton)
6. ARCO (BP/Atlantic Richfield)
7. Tesoro
8. Texaco (Shell Rialto)
9. Tosco (Phillips - east)
10. Unocal (Phillips - west)

GROUNDWATER SUBBASINS AND PRODUCTION WELLS

The Colton Terminal is located within the Colton Groundwater Subbasin of the Upper Santa Ana River Basin Watershed. The beneficial uses of the Colton Groundwater Subbasin, as specified in the Regional Board's Water Quality Control Plan, include municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

The site is at an average elevation of 1000 feet above mean sea level. The topographic relief of the ground surface is approximately 30 feet. Sedimentary deposits beneath the site primarily consist of highly permeable unconsolidated continental sedimentary deposits. Occasional discontinuous silty layers are present, with one silty unit (8 to 10 feet in thickness) acting as a perching layer beneath most of the facility.

Two unconfined water-bearing zones are monitored beneath the terminal. These have been called the perched zone and the regional aquifer. Perched groundwater is at an average elevation of 888 feet above mean sea level (a depth of 93 to 152 feet below ground surface). Water in the perched zone is found on top of a low permeability silt layer. The perched zone gently slopes from northeast to southwest and is not present at the northwest and southern portions of the site. The movement of groundwater on the perched zone is generally to the south-southwest but may range to the southeast through various portions of the site. The perched water is not used for water production. The top of the regional aquifer is an average elevation of 847 feet (a depth of 122 to 194 feet below ground surface). Groundwater in the regional aquifer flows to the south-southwest at a rate of approximately 2 feet per day.

There are two drinking water production wells approximately 4,600 feet south of the site. These wells are owned by the West San Bernardino County Water District. Well 41 was drilled in 1992 and began active pumping at over 2,000 gpm daily, in 1997. Weekly monitoring for MtBE and benzene is conducted at this well, and MtBE and benzene have not been detected. Well 40 was drilled in 1999, but there are no current plans to equip this well, until the potential impact from the MTBE plume is better understood.

SPILLS/LEAKS AT THE SITE AND ENFORCEMENT ACTIONS

The site has a history of spills of gasoline, jet fuel and diesel fuel. Little is known of the spill history prior to 1974. Since 1974, numerous fuel spills of unspecified quantities, and at least 14 spills, totaling 268,000 gallons, have been reported. The first large spill reported to the Regional Board was in 1987.

On December 23, 1987, the Executive Officer issued Cleanup and Abatement Order (CAO) No. 87-151 to Southern Pacific Pipelines (predecessor to Kinder Morgan) and Unocal Corporation, in response to the overflow of approximately 22,000 gallons of unleaded gasoline from an above ground tank on December 10, 1987. On October 14, 1988, the Executive Officer issued CAO No. 88-114 to ten (10) operators at the Colton Terminal: ARCO, Chevron, Golden West Refining, Mobil, SPP, Shell, Tesoro, Texaco, Tosco and Unocal. The CAO required (1) a detailed chronological review of release events at the Colton Terminal, (2) a facility-wide subsurface investigation to fully define the extent of petroleum hydrocarbon releases, (3) a remedial action plan for soil and groundwater cleanup activities, and (4) appropriate treatment of extracted groundwater. On July 7, 1989, the Executive Officer issued Order No. 89-121, which amended CAO No. 88-114, to remove ARCO as a responsible party, because ARCO agreed to conduct a separate investigation.

In August 2001, Kinder Morgan notified Regional Board staff that methyl tertiary butyl ether (MtBE) was detected at a concentration of 83 µg/l in a downgradient monitoring well, as part of the ongoing investigation at the Colton Terminal. This downgradient well is approximately 3,300 feet upgradient of two West San Bernardino County Water District production wells (Nos. 40 and 41). In February and March 2002, MtBE was detected at 2.2 µg/l in a groundwater sample from a monitoring well approximately 1,400 feet away from production well 41, and at 0.78 µg/l in a groundwater sample from a well approximately 300 feet away from inactive well 40.

On March 13, 2002, the Executive Officer met with representatives of Kinder Morgan and the West San Bernardino County Water District to direct that a work plan for wellhead treatment or a contingency plan agreement for ensuring uninterrupted water supply, be developed by May 1, 2002.

SITE INVESTIGATIONS AND REMEDIAL ACTIVITIES

Since September 2001, 42 additional groundwater monitoring wells have been installed to define the extent of MtBE in groundwater. There are currently 133 wells, of which, 99 groundwater wells are regularly monitored.

Groundwater monitoring of the perched aquifer in February and March 2002 indicated that free product (0.01 to 6.26 feet thick) was present in 19 wells, beneath the east and northeast portions of site. The highest MtBE was 2,300 µg/l, in the central and western portions of the site. The highest benzene was 5,000 µg/l in the south-central portion of the site.

Groundwater monitoring of the regional aquifer (February - March 2002) identified free product (0.06 to 1.37 feet thick) in four (4) monitoring wells, east of the Rialto Channel and in the southern portion of the site. The maximum benzene concentration, 1,700 µg/l, and the MtBE maximum, 890 µg/l, were detected south of the Military Tanks.

Vapor extraction has been conducted at the site since 1993. Vapor extraction has resulted in the removal of approximately 454,500 gallons (2.82 million pounds) of petroleum, as of August 2001.

Various free product recovery systems have operated at the site discontinuously since 1998. Passive product skimmers were used in the southern portion of the site until 2000. Currently two mobile trailer-mounted systems operate in the central portion of the site, and a permanent continuous product pumping system operates on the CalNev facility north of Slover Avenue. The cumulative amount of product removed using these systems is approximately 375 gallons to date.

On March 11, 2002, the Executive Officer issued Discharge Authorization No. R8-2002-0007-023, authorizing Kinder Morgan to discharge up to 216,000 gallons of treated groundwater per day to the Rialto Channel. A total fluids recovery system (pump and treat) began extracting groundwater and product from two wells at the southern property line on March 29, 2002. To date, approximately 25,000 gallons of groundwater have been

extracted, treated and discharged to a storm channel and approximately 30 gallons of product have been recovered. The system is currently connected to two wells. Each well is pumped at 25 gallons per minute. An additional well is being tied into the system and should be pumping by the end of April.

PROPOSED ACTIVITIES

- Additional offsite wells (negotiations with property owners are in progress).
- Additional lateral and vertical delineation of the plume.
- Evaluation of the effectiveness of the groundwater pump and treat system in the southern portion of the property to assist in the design of an off-site pump and treat system.
- A work plan for remediation of the offsite portion of the plume by May 1, 2002.
- A production well pump test on April 20, 2002, to see if there is hydraulic continuity or separation.
- The responsible parties and the West San Bernardino County Water District are presently negotiating a contingency agreement that would serve to guarantee an uninterrupted supply of water to the District.

On March 26, 2002, Regional Board staff hosted a public meeting to solicit participation in a citizens advisory committee; however, only three local residents attended. Therefore, no committee was formed.